IN THE CLAIMS:

This listing of claims will replace all prior versions of claims in the application.

Please CANCEL claim 17 without prejudice or disclaimer, AMEND claims 2, 13, 16 and 18 and ADD new claims 28 - 33 in accordance with the following:

1. (ORIGINAL) An electrolyte for use in a lithium-sulfur battery, comprising salts having imide anions.

2. (CURRENTLY AMENDED) The electrolyte of claim 1, wherein said imide anion is represented by ~~$N(C_xF_{2x+1}SO_2)^- N(C_yF_{2y+1}SO_2)^-$~~ $N(C_XF_{2X+1}SO_2)^- (C_yF_{2y+1}SO_2)^-$, wherein X and y are natural numbers .

3. (ORIGINAL) The electrolyte of claim 1, wherein said imide anion is selected from the group consisting of bis(perfluoroethylsulfonyl)imide ($N(C_2F_5SO_2)_2^-$, Beti), bis(trifluoromethylsulfonyl)imide ($N(CF_3SO_2)_2^-$, Im), and trifluoromethane sulfonimide, trifluoromethylsulfonimide.

4. (ORIGINAL) An electrolyte for use in a lithium-sulfur battery, comprising a first salt having imide anions and a second salt having organic cations.

5. (ORIGINAL) The electrolyte of claim 4, wherein said second salt is present in a liquid state at working temperatures less than or equal to 100°C.

6. (ORIGINAL) The electrolyte of claim 4, wherein the organic cation has a van der Waals volume of at least 100 $Å^3$.

7. (ORIGINAL) The electrolyte of claim 4, wherein the organic cation is a cation of a heterocyclic compound.

8. (ORIGINAL) The electrolyte of claim 7, wherein the heterocyclic compound includes a heteroatom selected from N, O, S, or a combination thereof.

9. (ORIGINAL) The electrolyte of claim 7, wherein the heterocyclic compound has a number of heteroatoms from 1 to 4, inclusive.

10. (ORIGINAL) The electrolyte of claim 7, wherein the cation of the heterocyclic compound includes at least one selected from the group consisting of pyridinium, pyridazinium, pyrimidinium, pyrazinium, imidazolium, pyrazolium, thiazolium, oxazolium, and triazolium, and substitutes thereof.

11. (ORIGINAL) The electrolyte of claim 4, wherein the organic cation includes a cation of an imidazolium compound.

12. (ORIGINAL) The electrolyte of claim 11, wherein the imidazolium compound is at least one of 1-ethyl-3-methylimidazolium (EMI), 1,2-dimethyl-3-propylimidazolium (DMPI), and 1-byutyl-3-methylimidazolium (BMI).

13. (CURRENTLY AMENDED) The electrolyte of claim 4, wherein the second salt further comprises an anion to be linked with the organic cation and which is selected from the group consisting of bis(perfluoroethylsulfonyl)imide ($N(C_2F_5SO_2)_2^-$, Beti), bis(trifluoromethylsulfonyl)imide ($N(CF_3SO_2)_2^-$, Im), tris(trifluoromethylsulfonyl)methide (~~$C(CF_3SO_2)_2^-$~~ $C(CF_3SO_2)_3^-$, Me), trifluoromethane sulfonimide, trifluoromethylsulfonimide, trifluoromethylsulfonate, AsF_9^-, ClO_4^-, PF_6^-, and BF_4^-.

14. (ORIGINAL) The electrolyte of claim 4, wherein the first salt is selected from the group consisting of $LiN(CF_3SO_2)_2$, $LiN(C_2F_5SO_2)_2$, and mixtures thereof; and said second salt is selected from the group consisting of 1-ethyl-3-methylimidazolium bis(perfluoroethylsulfonyl)imide (EMIBeti), 1- butyl-3-methylimidazolium hexafluorophosphate ($BMIPF_6$), and mixtures thereof.

15. (ORIGINAL) The electrolyte of claim 4, wherein the first salt is used at a concentration of 0.5 M to 2.0 M, and the second salt is used at a concentration of 0.2 to 1 M.

16. (CURRENTLY AMENDED) The electrolyte of claim 41, further comprising an organic solvent in which said salt is mixed, wherein the organic solvent comprises at least two groups selected from a weak polar solvent group, a strong polar solvent group and a lithium protecting solvent group.

17. (CANCELED)

18. (CURRENTLY AMENDED) The electrolyte of claim ~~17~~4, further comprising an organic solvent in which the first salt and the second salt are mixed, wherein the organic solvent comprises at least two groups selected from a weak polar solvent group, a strong polar solvent group and a lithium protecting solvent group.

19. (ORIGINAL) The electrolyte of claim 18, wherein:

the weak polar solvent is selected from an aryl compound, a bicyclic ether, and an acyclic carbonate,

the strong polar solvent is selected from a bicyclic carbonate compound, a sulfoxide compound, a lactone compound, a ketone compound, an ester compound, a sulfate compound, and a sulfite compound, and

the lithium protecting solvent is selected from a saturated ether compound, an unsaturated ether compound, a heterocyclic compound including N, O, and S, and a combination thereof.

20. (ORIGINAL) An electrolyte for use in a lithium-sulfur battery, comprising: a first salt having lithium cations and imide anions; and a second salt having organic cations.

21. (ORIGINAL) An electrolyte for use in a lithium-sulfur battery, comprising:

a first salt being selected from the group consisting of $LiN(CF_3SO_2)_2$, $LiN(C_2F_5SO_2)_2$, and mixtures thereof; and

a second salt being selected from the group consisting of 1-ethyl-3-methylimidazolium bis(perfluoroethylsulfonyl)imide (EMIBeti), 1- butyl-3-methylimidazolium hexafluorophosphate ($BMIPF_6$), and mixtures thereof.

22. (ORIGINAL) A lithium-sulfur battery comprising:

a positive electrode having a sulfur, a sulfur compound and mixtures thereof as a positive active material;

an electrolyte for use in a lithium-sulfur battery, comprising salts having imide anions; and

a negative electrode having a negative active material selected from the group consisting

of a material capable of reversibly intercalating/deintercalating lithium ions, a material capable of reversibly forming a lithium-containing compound by a reaction with lithium ions, a lithium metal, and a lithium alloy.

23. (ORIGINAL) The lithium-sulfur battery of claim 22, wherein the positive active material is selected from the group consisting of an elemental sulfur, Li_2S_n ($n \geq 1$), Li_2S_n ($n \geq 1$) dissolved in catholytes, an organosulfur compound, and a carbon-sulfur polymer ($(C_2S_x)_n$: $x = 2.5 \sim 50$, $n \geq 2$).

24. (ORIGINAL) The lithium-sulfur battery of claim 22, wherein the positive electrode further comprises at least one additive selected from the group consisting of a transition metal, a Group IIIA element, a Group IVA element, a sulfur compound thereof, and alloys thereof.

25. (ORIGINAL) The lithium-sulfur battery of claim 22, wherein:

the transition metal is at least one selected from the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, Ta, W, Re, Os, Ir, Pt, Au, and Hg,

the Group IIIA elements includes at least one of Al, Ga, In, and Tl, and

the group IVA elements includes at least one of Si, Ge, Sn, and Pb.

26. (ORIGINAL) The lithium sulfur battery of claim 22, wherein the positive electrode further comprises electrically conductive materials that facilitate the movement of electrons within the positive electrode.

27. (ORIGINAL) The lithium sulfur battery of claim 22, wherein:

the positive electrode further comprises a current collector and a binder to adhere the positive active material to the current collector, and

the binder includes at least one of poly(vinyl acetate), poly vinyl alcohol, polyethylene oxide, polyvinyl pyrrolidone, alkylated polyethylene oxide, cross-linked polyethylene oxide, polyvinyl ether, poly(methyl methacrylate), polyvinylidene fluoride, a copolymer of polyhexafluoro propylene and polyvinylidene fluoride, poly(ethyl acrylate), polytetrafluoro ethylene, polyvinyl chloride, polyacrylonitrile, polyvinylpyridine, polystyrene, and derivatives, blends, and copolymers thereof.

28. (NEW) The lithium sulfur battery of claim 22, wherein the electrolyte comprises a first salt having imide anions and a second salt having organic cations.

29. (NEW) The lithium sulfur battery of claim 22, wherein said imide anion is represented by $N(C_XF_{2X+1}SO_2)^-$ $(C_yF_{2y+1}SO_2)^-$, wherein X and y are natural numbers .

30. (NEW) The lithium sulfur battery of claim 22, wherein said imide anion is selected from the group consisting of bis(perfluoroethylsulfonyl)imide ($N(C_2F_5SO_2)_2^-$, Beti), bis(trifluoromethylsulfonyl)imide ($N(CF_3SO_2)_2^-$, Im), trifluoromethane sulfonimide, and trifluoromethylsulfonimide.

31. (NEW) The lithium sulfur battery of claim 28, wherein the organic cation of the second salt is a cation of a heterocyclic compound and is selected from the group consisting of pyridinium, pyridazinium, pyrimidinium, pyrazinium, imidazolium, pyrazolium, thiazolium, oxazolium, and triazolium.

32. (NEW) The lithium sulfur battery of claim 28, wherein the first salt is selected from the group consisting of $LiN(CF_3SO_2)_2$, $LiN(C_2F_5SO_2)_2$, and mixtures thereof; and said second salt is selected from the group consisting of 1-ethyl-3-methylimidazolium bis(perfluoroethylsulfonyl)imide (EMIBeti), 1- butyl-3-methylimidazolium hexafluorophosphate ($BMIPF_6$), and mixtures thereof.

33. (NEW) The lithium sulfur battery of claim 22, wherein the electrolyte further includes an organic solvent in which said salt is mixed, wherein the organic solvent comprises at least two groups selected from a weak polar solvent group, a strong polar solvent group and a lithium protecting solvent group.

34. (NEW) The lithium sulfur battery of claim 33, wherein:

the weak polar solvent is selected from an aryl compound, a bicyclic ether, and an acyclic carbonate,

the strong polar solvent is selected from a bicyclic carbonate compound, a sulfoxide compound, a lactone compound, a ketone compound, an ester compound, a sulfate compound, and a sulfite compound, and

the lithium protecting solvent is selected from a saturated ether compound, an

unsaturated ether compound, a heterocyclic compound including N, O, and S, and a combination thereof.